

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Previously Presented) A bone screw anchor system operable to secure an implant to a bone using a fastening device comprising:

an intermediary portion having external threads;

an open tip located proximate a first end of said intermediary portion;

a head defining a groove capable of cooperating with a driving tool operable to facilitate implantation of said anchor within said bone, said head located proximate a second end of said intermediary portion opposite said open tip;

a proximal portion between said head and said intermediary portion, said proximal portion is devoid of external threads, said proximal portion has a diameter that is at least approximately the same as a diameter of said external threads of said intermediary portion; and

[[a]] an interior bore extending through said head, through said proximal portion, and through said intermediary portion, said bore having threads at said proximal portion operable to cooperate with corresponding threads of the fastening device;

wherein said fastening device secures the implant to the bone such that the implant is secured between the fastening device and the anchor.

2. (Cancelled)

3. (Previously Presented) The bone screw anchor system of Claim 1, wherein said tip further comprises at least one cutting flute.

4. (Previously Presented) The bone screw anchor system of Claim 1, wherein said tip is self-tapping.

5. (Previously Presented) The bone screw anchor system of Claim 1, further comprising at least one port providing communication between said interior bore and an exterior of said bone screw anchor.

6. (Previously Presented) The bone screw anchor system of Claim 1, further comprising at least one cutting flute extending across at least a portion of a length of said intermediary portion.

7. (Previously Presented) The bone screw anchor system of Claim 1, wherein at least a portion of said bore is filled with bone cement.

8. (Previously Presented) The bone screw anchor system of Claim 1, wherein said head further comprises a collar.

9. (Previously Presented) The bone screw anchor system of Claim 8, wherein said collar further comprises at least one cutting flute.

10. (Previously Presented) The bone screw anchor system of Claim 1, wherein said bore extends completely through said anchor.

11. (Previously Presented) The bone screw anchor system of Claim 1, wherein said anchor is comprised of a resorbable material.

12. (Cancelled)

13. (Previously Presented) The bone screw anchor system of Claim 1, wherein the implant is a bone plate.

14. (Previously Presented) The bone screw anchor system of Claim 1, wherein said tip has a diameter that is smaller than a diameter of said intermediary portion.

15. (Previously Presented) The bone screw anchor system of Claim 1, wherein said intermediary portion is completely externally threaded.

16. (Cancelled)

17. (Previously Presented) The bone screw anchor system of Claim 1, wherein said fastening device is a screw.

18. (Previously Presented) The bone screw anchor system of Claim 1, wherein said interface of said head is at least one recess operable to mate with said driver.

19. (Previously Presented) A bone screw anchor system operable to secure an implant to a bone using a fastening device comprising:

- an externally threaded intermediary portion;

- an open tip located proximate a first end of said intermediary portion;

- a head located proximate a second end of said intermediary portion, said second end positioned opposite said first end;

- a proximal region between said head and said intermediary portion, said proximal region is devoid of external threads; and

- a bore extending through said head, said intermediary portion, and said tip operable to direct bone cement from said bore to said bone through at least one of a port and said tip;

wherein said bore includes internal threads confined to said proximal region for receiving the fastening device, which is operable to secure the implant to said anchor;

wherein the implant is secured between the fastening device and the anchor.

20. (Previously Presented) The bone screw anchor system of Claim 19, wherein said anchor is self tapping.

21. (Previously Presented) The bone screw anchor system of Claim 19, further comprising at least one flute extending from said tip to said head.

22. (Previously Presented) The bone screw anchor system of Claim 19, wherein said head further comprises a collar.

23. (Previously Presented) The bone screw anchor system of Claim 19, wherein said collar further comprises at least one cutting flute.

24. (Previously Presented) The bone screw anchor system of Claim 19, wherein said head further comprises an interface to permit cooperation between said anchor and a driving tool during implantation of said anchor within said bone.

25. (Previously Presented) The bone screw anchor system of Claim 19, wherein said anchor is comprised of a resorbable material.

26. (Previously Presented) The bone screw anchor system of Claim 19, wherein said bone cement is injected within said bore using a delivery apparatus comprising:

a bone cement receptacle; and

a threaded tube connected to said receptacle and operable to cooperate with said threads of said bore.

27. (Previously Presented) The bone screw anchor system of Claim 26, said delivery apparatus further comprising a stem extending from said threaded tube, said stem terminating in a disk operable to plug said bore at said tip to prevent bone cement from passing through said tip.

28. (Previously Presented) The bone screw anchor system of Claim 19, wherein said implant is a bone plate.

29. (Previously Presented) The bone screw anchor system of Claim 19, wherein said tip has a diameter that is smaller than a diameter of said intermediary portion.

30. (Previously Presented) The bone screw anchor system of Claim 19, wherein said intermediary portion is completely externally threaded.

31. (Cancelled)

32. (Previously Presented) The bone screw anchor system of Claim 19, wherein said fastening device is a screw.

33. (Previously Presented) The bone screw anchor system of Claim 19, wherein said interface of said head is at least one recess operable to mate with said driver.

34. (Previously Presented) A method of securing a bone screw anchor system to a bone comprising:

implanting a bone screw anchor within said bone using a driving tool operable to cooperate with a groove in a head of said anchor;

injecting bone cement into an intermediate region of a bore extending through said anchor using a cement delivery device, said bone cement exiting said bore through at least one opening in the intermediate region to permit said bone cement to secure said anchor to said bone; and

threading a fastening device into a threaded region of the bore to secure an implant such that the implant is secured between the fastening device and the anchor, the fastening device not extending to the intermediate region.

35. (Previously Presented) The method of Claim 34, further comprising protecting the threaded region of said anchor during said injecting step.

36. (Previously Presented) The method of Claim 34, further comprising threadably connecting said delivery device with internal threads of said threaded region to protect said threads from being contaminated with said bone cement during said injecting step.

37. (Original) The method of Claim 34, wherein said bone cement exits said bore through a tip of said anchor.

38. (Original) The method of Claim 34, wherein said bone cement exits said bore through at least one side port located on one or more sides of said anchor.

39. (Currently Amended) A method for securing a bone screw anchor system to a bone comprising:

providing an anchor having:

an externally threaded intermediary portion;

a tip located at a first end of the intermediary portion;

a head having an interface capable of cooperating with a driving tool operable to facilitate implantation of the anchor within the bone, the head located at a second end of the intermediary portion opposite the tip;

a proximal portion between the head and the intermediary portion, the proximal portion is devoid of external threads, the proximal portion has a diameter that is at least approximately the same as a diameter of the external threads of the intermediary portion; and

a bore extending through the head and through at least a portion of the intermediary portion, the bore having interior threads and operable to cooperate with corresponding threads of a fastening device;

implanting the anchor within the bone and using bone cement to secure the anchor to the bone;

placing an implant over the anchor and the bone; and

fastening the implant to the anchor by threading the fastening device into the anchor to a depth not beyond a tip of the anchor with the implant between the anchor and the fastening device.

40. (Original) The method of Claim 39, further comprising:

injecting bone cement through the interior bore, the bone cement exiting the bore through at least one opening in the interior bore to secure the anchor to the bone.

41. (Original) The method of Claim 39, further comprising:

injecting bone cement through the interior bore using a cement delivery device that mates with threads within the bore to protect the threads.

42. (Previously Presented) The bone screw anchor system of Claim 1, wherein said intermediary portion further comprises a flute.

43. (Previously Presented) The bone screw anchor system of Claim 19, wherein said proximal region has a diameter that is at least approximately the same as a diameter of said externally threaded intermediary portion.

44. (Previously Presented) The bone screw anchor system of Claim 43, wherein said proximal region further comprises a flute.

45. (New) The method of Claim 34, wherein the implant is secured to the anchor by placing the implant over a proximal portion of the anchor between a head of the anchor and the intermediate region of the anchor, the proximal portion is devoid of external threads and has a diameter that is at least approximately the same as a diameter of external threads of the intermediate region.